

CLAIMS

I claim:

1 1. A pipe inlet/outlet device, comprising a tubular body
2 having a hollow neck portion defining a longitudinal axis, the
3 neck portion having an open first end with an outside diameter
4 adapted for fitting snugly in an inflow end of a pipe, and a
5 rounded rim integral with and extending from the neck portion
6 opposite the first end, the rim defining a mouth opening into
7 the neck portion, the rim curving outward and rearward from the
8 mouth and forming a skirt terminating in a lip, a recess being
9 defined between the skirt and the neck portion.

1 2. The pipe inlet/outlet device according to claim 1,
2 wherein said neck portion is cylindrical, the mouth of the pipe
3 inlet/outlet device being substantially circular, the recess
4 being annular.

1 3. The pipe inlet/outlet device according to claim 1,
2 wherein the rim is rounded with a constant radius of curvature
3 as viewed in a plane containing the longitudinal axis.

1 4. The pipe inlet/outlet device according to claim 3,
2 wherein the constant radius of curvature is about one-eighth of
3 the outside diameter of the neck portion.

1 5. The pipe inlet/outlet device of claim 1, wherein an
2 inner surface of said pipe inlet/outlet device includes boundary
3 layer turbulators.

1 6. The pipe inlet/outlet device of claim 1, wherein an
2 inner surface of said pipe inlet/outlet device defines a fluid
3 pathway, said pipe inlet/outlet device further comprising a
4 plurality of ribs extending into said fluid pathway for
5 affecting fluid flow through said pipe inlet/outlet device.

1 7. The pipe inlet/outlet device of claim 1, wherein an
2 inner surface of said pipe inlet/outlet device defines a fluid
3 pathway, said pipe inlet/outlet device having a plurality of
4 grooves extending into said fluid pathway for affecting fluid
5 flow through said pipe inlet/outlet device.

1 8. The pipe inlet/outlet device of claim 1, wherein the
2 mouth of the tubular body has a trumpet bell shape.

1 9. The pipe inlet/outlet device according to claim 1,
2 wherein the rim is rounded with a radius of curvature gradually
3 decreasing from the mouth to the lip of said skirt as viewed in
4 a plane containing the longitudinal axis, thereby defining a
5 spiral shape.

1 10. The pipe inlet/outlet device according to claim 1,
2 wherein said tubular body is made from plastic.

1 11. The pipe inlet/outlet device according to claim 1,
2 wherein said tubular body is made from high density
3 polyethylene.

1 12. The pipe inlet/outlet device according to claim 1,
2 wherein said tubular body is made from metal.

1 13. The pipe inlet/outlet device according to claim 1,
2 wherein the neck portion of said tubular body is dimensioned and
3 configured for friction fit into an inflow end of a storm
4 drainage pipe disposed in a tank.

1 14. A fluid handling system, comprising:
2 a retention tank;
3 a pipe extending from the retention tank, the pipe having
4 an inflow end for receiving the fluid from the tank;
5 a pipe inlet device having:
6 a tubular body having a hollow, cylindrical neck
7 portion defining a longitudinal axis, the neck portion
8 having an open first end fitting snugly into the inflow end
9 of the pipe, and a rounded rim integral with and extending
10 from the neck portion opposite the first end, the rim
11 defining a mouth opening into the neck portion, the rim
12 curving outward and rearward from the mouth and forming a
13 skirt terminating in a lip, an annular recess being defined
14 between the skirt and the neck portion.

1 15. The fluid handling system according to claim 14,
2 wherein the rim is rounded with a constant radius of curvature
3 as viewed in a plane containing the longitudinal axis.

1 16. The fluid handling system according to claim 14,
2 wherein the constant radius of curvature is about one-fourth of
3 an inside radius of said pipe.

1 17. The fluid handling system according to claim 14,
2 wherein said tank is selected from the group consisting of a
3 manhole and a catch basin.

1 18. The fluid handling system according to claim 14,
2 wherein said tubular body is made from high density
3 polyethylene.

1 19. A method of increasing a fluid handling capacity of a
2 pipe, the method comprising the steps of:
3 selecting a pipe inlet device comprising a neck portion
4 having a neck portion adapted for fitting snugly in an inflow
5 end of the pipe and a rounded rim integral with and extending
6 from the neck portion opposite the first end, the rim defining a
7 mouth opening into the neck portion, the rim curving outward and
8 rearward from the mouth and forming a skirt terminating in a
9 lip, a recess being defined between the skirt and the neck
10 portion;
11 attaching the pipe inlet device to the inflow end of the
12 pipe.

1 20. The method of increasing fluid handling capacity
2 according to claim 19, wherein said attaching step further
3 comprises the steps of:

4 applying adhesive to an outside of the neck portion; and
5 inserting the neck portion into the inflow end of the pipe.